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TWO NEW SPECIES OF CINARA (HOMOPTERA: APHIDIDAE) FROM ONTARIO¹

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The two new species herein described are the following.

Cinara canatra new species

Alate viviparous female:

Size and general color.—Length of cleared specimens from vertex to tip of anal plate varying from 2.86-3.00 mm. Color shining black, mirror-like, without powder or waxy secretion of any kind. Cleared specimens show the antennae brownish with the apical portions of the segments darker. Femora dark brown. Tibiae dark with a light band in the proximal half. A large dark patch surrounds the base of the cornicles, so that it is difficult to judge where the bases of the cornicles originate.

Head and thorax.—Head with a median suture. Ocular tubercles well developed. Antennal segments with the following comparative lengths: III .429-.457 mm., IV .17-.185 mm., V .214-.228 mm., VI .155-.170 or .085+ .07-.085+ .085 mm. Secondary sensoria arranged as follows: III 2-4, most common number 3; IV 1; V 0-1, as a rule 1. Hair on antennae rather sparse, inclined at an angle of about 45 degrees. Some hairs on third segment longer than width of segment, others subequal to width. Hairs on remaining segments for most part longer than width of segment. Sixth segment with unguis rather long and thick to the end. Rostrum long, reaching to or beyond mid abdomen. Hind tibiae 1.85-2.14 mm. Hind tarsi .25-.28 mm. Hairs on inner surface of hind tibiae more abundant and slightly longer than those on outer surface, some hairs almost at right angles to tibiae, other hairs inclined at about 45 degrees, the two kinds intermixed. Hairs on distal region more numerous and more inclined. Most hairs longer than width of segment, but some hairs subequal to width of tibiae. First segment of tarsus with about ten hairs. Media of fore wing either once or twice branched.

Abdomen.—Width of base of cornicles about .26 mm., difficult to determine in some cases because cornicle is located in pigmented area of the same color. Pigmented area surrounding base of cornicles with very few hairs; cornicle with 10-12 hairs. Cauda and anal plate with longer and somewhat coarser hair than that found on rest of abdomen. Dorsal surface of cauda without hair.

Apterous viviparous female:

Length from 2.35-2.71 mm. Color as in alate and without powder. Proportional lengths of antennal segments as follows: III .347-.457 mm., IV .17-.20 mm., V .21-.24 mm., VI .143-.157 or .085+ .057 mm. Hair as

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in alate viviparous female. Secondary sensoria limited to one on segment V, however one specimen shows one on IV and three on III. Rostrum long, in one case reaching beyond tip of abdomen, in all cases reaching to or beyond cornicles. Hind tibiae 2.10-2.14 mm. long. A brown sclerotized area, conspicuous in cleared specimens, covers the posterior region of the abdomen, forming a broad band which envelopes the cornicles and is continuous with their bases. The width of the cornicle base is thus difficult to determine, but appears to be about .247 mm. Cornicles with more hair than those of the alate female.

Oviparous female:

Length 2.76 mm. Color as in alate viviparous female, and without powder. Length of antennal segments: III .40-.46 mm., IV .19-.20 mm., V .23-.26 mm., VI .16-.18 mm. Sensoria as in the apterous viviparous female. Rostrum extending beyond cornicles. Hind tibiae 1.93-2.03 mm. Cornicle bases surrounded by a sclerotized area almost as extensive as that in the apterous viviparous female.

Eggs.—Black, elliptical in shape, laid singly on the needles near the tips of the branches. Typically the egg is attached to the inner surface of a needle near its base and appears to be wedged between the two needles just above the fascicle.

Location on host tree.—In the spring, the aphids are found in dense clusters on the bark of the smaller branches about two feet from the tips. Later in the summer they move inwards, and form clusters on the bark of the trunk. In the fall the aphids are again found near the ends of the branches. They are closely attended by large numbers of ants throughout the season.

This species is similar to *C. atra* (Gillette and Palmer) and was so determined by the junior author. It differs from *C. atra* in the following respects: larger size; longer and more numerous hair on antennae; differently shaped sixth antennal segment, the segment not so club shaped, the unguis being longer and thicker; the third antennal segment longer; the hind tibiae longer; more hair on the cornicles. *C. atra* lacks the broad sclerotized band on which the cornicles originate in the apterous viviparous females of *C. canatra*.

Holotype alate viviparous female. Morphotype apterous viviparous female, mounted on the same slide. Sault Ste. Marie, Ontario. *Pinus banksiana* October 4, 1948, G. A. Bradley, deposited in the Canadian National Collection, Ottawa. Paratypes in the United States National Museum and the collections of the authors.

Cinara canadensis new species

Apterous viviparous female:

Size and general color.—Length from vertex to tip of anal plate (cleared specimens) 2.35-2.78 mm.; average 2.55 mm. Color greyish-brown lightly covered with white powdery secretions. Third antennal segment pale, remaining segments brownish. Femora brown with apical regions darker. Tibiae pale with dark brown at the tip. Tarsi brown. Cornicles brown. Cauda and anal plate brown. Head and thorax darker than abdomen. Spiracles surrounded by brown. Dorsolateral portions of abdomen with two rows of small brown spots. Region anterior to cauda with three to four irregular rows of brownish spots from which hairs arise, the more anterior rows with fewer spots and more irregular.

Head and thorax.—Antennal segments with the following comparative lengths: III .328-.40 mm., IV .171-.20 mm., V .171-.185 mm., VI .114-.143 + .028-.04 mm. Hind tibiae 1.43-1.71 mm. Hind tarsi .24-.31 mm. Secondary sensoria 0-2 on IV as a rule 1, 1-2 on V as a rule 1. Antennal hair long, some on III three times width of segment, upright. Hair on IV and V as long as that on III but more inclined. Head with median suture. Rostrum attaining and in some cases extending beyond meta-thoracic coxae. Ocular tubercles well developed. Length of hairs on outer portion of hind tibia at least two times width of tibia and almost at right angles to tibia. Hairs on inner portion of hind tibia slightly shorter, more inclined and more numerous than those on outer portion. First segment of hind tarsus with about ten hairs.

Abdomen.—Abdomen covered with numerous fine long hairs, as long as or longer than those on antennae. Cornicles .286 mm. at base. Height of cornicles about .17 mm. Anal plate and cauda with longer and somewhat coarser hair than that on rest of abdomen.

Found in colonies on the bark of the smaller branches of red juniper.

This species is allied to *C. juniperi* DeGeer, and differs from it in the following respects: larger size, much lighter color, and much longer tibiae, less pigmented head and thorax, shorter and less nail-like unguis, longer third and fourth antennal segments, and shorter sixth. *C. juniperi* also lacks the pigmented spots from which hairs arise just anterior to the cauda.

Holotype apterous viviparous female, *Juniperus virginiana* September 27, 1946, Niagara Falls, Ontario, G. A. Bradley, deposited in the Canadian National Collection, Ottawa. Paratypes in the collection of the United States National Museum and the collections of the authors.